

10/585551

1 AP20 Rec'd PCT/PTO 10 JUL 2006

1 PRACTICE PUTTING GREEN

2

3 This invention relates to an apparatus for
4 practising golf shots, and particularly for
5 practising putting.

6

7 Accurate putting requires a considerable amount of
8 practise. A number of factors have to be assessed
9 and taken into consideration before attempting a
10 putt. These include the speed of the green, the
11 degree and shape of any slopes between the hole and
12 the ball and of course the distance and bearing of
13 the hole from the ball.

14

15 As an alternative to practising on greens, indoor
16 practising mats have been developed. However such
17 known systems suffer from a number of disadvantages,
18 in particular the limited variety of shots that they
19 can simulate.

20

21 According to the present invention there is provided
22 an apparatus for practising golf shots, comprising:

1 a body portion;

2 a first adjustment means which is adapted to
3 vary the height of the body portion at a first
4 point;

5 a second adjustment means which is adapted to
6 vary the height of the body portion at a second
7 point.

8
9 Preferably, a slope can be provided between the
10 first and second points and said slope has a curved
11 profile. Typically a slope is provided only when
12 the vertical height of at the first and second
13 points is different.

14
15 Thus embodiments of the present invention can
16 provide a slope with a curved profile as well as a
17 slope with a straight profile, depending on the
18 in-use height and position of the first and second
19 (and any further) adjustment means.

20
21 Preferably, the body portion is made from a material
22 flexible enough to be able to form the slope between
23 the first and second points when the vertical
24 heights at the first and second points is different,
25 but rigid enough such that it does not sag between
26 the first and second points when the vertical height
27 at the first and second points is equal.

28
29 The body portion may comprise a putting portion over
30 which a ball is adapted to travel and a stance-board
31 to support the user.

32

1 The putting portion may itself comprise a support
2 portion and a contacting portion that contacts the
3 golf ball. Preferably, the support portion supports
4 the contacting portion. In use therefore, the
5 contacting portion is preferably provided over the
6 support portion. Preferably, the contacting portion
7 is adapted to be rolled up for storage purposes.

8
9 Preferably, the support portion supports the
10 contacting portion substantially over the whole of a
11 face of the contacting portion.

12
13 Preferably, the support portion is pliable and more
14 preferably resilient.

15
16 Preferably the support portion comprises a plurality
17 of separate panels, each panel connectable with at
18 least one other panel to form the support portion.

19
20 Preferably, the support portion comprises three
21 panels, each panel supporting a part of the
22 contacting portion. Optionally the support portion
23 may comprise four or five or more than five panels.
24 Each panel can be, for example, around 1 metre in
25 length.

26
27 Preferably, each support portion panel can be
28 connected to an adjacent support portion panel by
29 engagement means such as castellations provided on
30 the edges thereof. Preferably, the support portion
31 includes a storage area that is adapted to receive

1 the contacting portion when the apparatus is not in
2 use.

3

4 Preferably, each of the first and second adjustment
5 means comprises spacers. In use, the number of
6 spacers can be independently varied to vary the
7 height of the body portion at the first or second
8 points respectively.

9

10 Preferably, the spacers comprise a base portion and
11 an engagement means. Preferably, the engagement
12 means is adapted to engage with corresponding
13 engagement means provided on the support portion.
14 The engagement means may be a rib and slot and
15 preferably a rib is provided on a first face of each
16 spacer. Preferably a slot is provided in the body
17 portion at each of the first and second points.
18 The spacers are adapted to be joined or stacked
19 together to space the support portion further away
20 from a resting surface. The rib is adapted to be
21 orientated to engage with the slot or alternatively
22 to prevent it from engaging with the slot.

23

24 Alternatively the engagement means may be a conical
25 portion provided on the spacer.

26

27 Preferably, a target is provided in the putting
28 portion and/or the contacting portion. The target
29 may be an aperture in the contacting portion and may
30 be a recess in the support portion. Typically the
31 recess is a holder adapted to retain balls.

32 Preferably, the aperture and holder are provided

1 towards an end of the contacting and putting
2 portion. Preferably, there are two apertures and
3 two holders. Preferably, each aperture is provided
4 towards an end of the putting surface and is
5 preferably off-centre from the main axis of the
6 putting surface in order to increase the variety of
7 shots which may be practised on the apparatus.

8

9 Preferably the holder is formed integrally with the
10 putting portion or alternatively formed separately
11 and attached thereto.

12

13 Preferably, the stance-board is adapted to locate at
14 any side of the putting portion. Preferably, the
15 distance between the stance-board and the aperture
16 can be varied in use by locating the stance-board to
17 varying positions on a side of the putting portion.
18 The first and second adjustment means may be
19 provided on the stance-board or on the putting
20 portion.

21

22 Preferably, the stance board and the putting portion
23 both have adjustment means. More preferably, the
24 stance board has four adjustment means provided at
25 four different points. Preferably the putting
26 portion has at least three pairs, preferably at
27 least four pairs, more preferably at least five
28 pairs, optionally at least six pairs of adjustment
29 means and as such at least six, eight, ten and
30 twelve different points respectively that can be
31 varied in height by the user. Thus a variety of
32 slopes may be simulated by the user independently

1 varying the height of the putting portion at each
2 adjustment means.

3

4 Moreover the slope of the stance-board can also be
5 manipulated in many different ways by independently
6 varying the height of the adjustment means provided
7 on the stance-board so the user can experience the
8 variety of slopes found in practise.

9

10 Preferably, the contacting portion is adapted to be
11 rolled up for storage. More preferably, the
12 contacting portion is stored in a stowage portion
13 when not in use.

14

15 Preferably, the contacting portion is made from a
16 material that will vary in the friction it provides
17 to golf balls before and after it has been brushed.
18 One suitable material could be polypropylene.

19

20 Preferably the body portion comprises rails adapted
21 to resist movement of golf balls thereover. More
22 preferably the contacting portion of the body
23 portion comprises the rails adapted to resist
24 movement of golf balls thereover.

25

26 Preferably, the stance-board is more rigid than the
27 putting portion. Preferably therefore, the stance-
28 board is adapted to support the weight of a user.

29

30 An embodiment of the present invention will now be
31 described, by way of example only, with reference to
32 the accompanying drawings, in which:

1 Fig. 1 is a plan view of a putting apparatus;
2 Fig. 2 is a side view of the Fig. 1 putting
3 apparatus;
4 Fig. 3a is a perspective view of a panel which
5 forms part of the putting apparatus of Fig. 1;
6 Fig. 3b is an end view of the Fig. 3a panel;
7 Fig. 4 is a perspective view of part of the
8 putting apparatus of Fig. 1 in a packaged
9 configuration;
10 Fig. 5a is a side view of a stand-board which
11 forms part of the Fig. 1 apparatus;
12 Fig. 5b is a bottom view of the Fig. 5a stand-
13 board;
14 Fig. 6a is a side view of a plurality of stand-
15 board spacers in an engaged configuration;
16 Fig. 6b is a sectional view of the Fig. 6a
17 stand-board spacers in an exploded
18 configuration;
19 Fig. 6c is a bottom view of the Fig. 6a stand-
20 board spacers;
21 Fig. 6d is a top view of an alternative stand-
22 board spacer;
23 Fig. 6e is a sectional view of a plurality of
24 the Fig. 6d stand-board spacers;
25 Fig. 6f is a top view of a base-panel spacer;
26 Fig. 6g is a sectional view of a plurality of
27 base-panel spacers;
28 Figs. 7a-7e are end views of the Fig. 1
29 apparatus showing a variety of different
30 combinations of spacers supporting said
31 apparatus without a stand-board;

1 Figs. 8a-8e are a series of end views of the
2 Fig. 1 apparatus showing a variety of different
3 combinations of spacers supporting said
4 apparatus including a stand-board;
5 Fig. 9 is a series of illustrations showing the
6 variety of different types of slope which can
7 be created on a face of the Fig. 1 apparatus;
8 Fig. 10 is a perspective view of an underside
9 of the Fig. 1 apparatus;
10 Fig. 11a is a sectional view of a rail which
11 forms part of the Fig. 1 apparatus; and,
12 Fig. 11b is a sectional view of a part of the
13 Fig. 1 apparatus showing the attached rail.

14

15 A putting apparatus 10 in accordance with the
16 present invention is shown in Figs. 1 and 2 and
17 comprises three base panels 12a-12c, base-panel
18 spacers 14, stand-board spacers 54, rails 16, a
19 stand-board 18 and a putting surface 24.

20

21 Holes 22 are provided in the putting surface 24 and
22 recesses 23 are provided in the base panel 12c below
23 the holes 22. The holes 22 are sized to allow a
24 golf ball (not shown) to drop through the putting
25 surface 24 into the recesses 23. The holes 22
26 provide targets to the user just as a hole in a golf
27 putting green provides a target. Typically two holes
28 22, each provided away from a central axis of the
29 putting surface 24, are provided to give two targets
30 to the user and thus allow for a larger variety of
31 shots to be simulated.

32

1 The base panels 12a-12c are rectangular in shape and
2 provide planar faces for supporting the putting
3 surface 24.

4
5 The rails 16 extend in an upwardly direction around
6 three edges of the base panel 12c proximate to the
7 holes 22 to prevent stray golf balls from falling
8 off the panel 12c.

9
10 At a fourth edge of the base panel 12c,
11 castellations 20 are provided for engagement with
12 complementary castellations 20 in an edge of the
13 base panel 12b in order to join the base panels 12b
14 and 12c together. At an opposite edge of the base
15 panel 12b, further castellations 20 are provided for
16 connection with complementary castellations on the
17 base panel 12a. Thus the base panels 12a-12c can be
18 joined in a line to provide support for the putting
19 surface 24. Optionally further panels (not shown),
20 similar to the panel 12b, can be added.

21
22 The putting surface 24 is rolled out over the base
23 panels 12a-12c to provide a suitable surface over
24 which golf balls may travel. The castellations 20
25 in the base panels 12a-12c provide a smooth,
26 continuous connection between the panels 12a-12c and
27 do not affect the movement of a golf ball passing
28 over these connections.

29 The stand-board 18, shown in more detail in Figs. 5a
30 and 5b, is positioned at a side of the base panels
31 12a-12c and can support a user whilst putting a ball
32 along the putting surface 24. It should be noted

1 that the stand-board 18 can be positioned at the
2 base panels 12a-12c close to the holes 22 or far
3 away from the holes 22 so that a user can practise
4 shots of different lengths. The stand-board 18 can
5 also be moved to the opposite side of the panels
6 12a-12c to provide for left-handed golfers. A mount
7 28 may be provided in the stand-board 18 in order to
8 mount advertising material or the like. Slots 26 can
9 be provided to mount a name badge or a sign of any
10 sort. A polypropylene surface cover with a rubber
11 backing may be provided on the stand-board 18.

12

13 The base-panel spacers 14, shown in more detail in
14 Figs. 6f-6g, space the base panels 12a-12c away from
15 the surface upon which it is resting, such as a
16 floor or carpet (not shown). The base-panel spacers
17 14 have an upstanding rib 30 which can engage with a
18 slot 40. Slots 40 are provided in the underside 42
19 of the base panels 12a-12c.

20

21 The base-panel spacers 14 are typically 20mm in
22 height and so if it is required to raise a point of
23 one of the base panels by 20mm, a single spacer is
24 required. The base-panel spacer 14 is oriented to
25 prevent its rib 30 from engaging the slot 40 so that
26 the base panel is spaced away from the floor by the
27 full height of the spacer, 20mm. Should a greater
28 height be required for spacing that point of the
29 base panel away from the floor, further spacers 14
30 can be added together, as shown in Fig. 6g. If a
31 40mm height is required two spacers 14 are used, if
32 a 60mm height is required then three spacers 14 are

1 required and so on. Additionally a spacer 14 can be
2 turned to allow its rib 30, which is about 10mm in
3 height, to engage with the slot 40. This spacer
4 would then space the base panel 12a-12c by 10mm
5 less. Hence, the panels 12a-12c can be spaced away
6 from the floor in increments of 10mm.

7
8 The slots 40 for engagement with spacers 14 are
9 provided at a number of points. Typically, there
10 are slots 40 in each of the corner of the base
11 panels, 12a and 12c, and a slot 40 around the middle
12 of the two edges of the base panel 12b. Thus, the
13 assembled putting apparatus 10 can provide a putting
14 surface 24 with a great variety of different slopes
15 by varying the number and orientation of the spacers
16 14 at these points. Fig. 9 shows some of the slopes
17 which can be provided by the putting apparatus 10.

18
19 The stand-board spacers 54 support the stand-board
20 18, generally in each corner thereof. The stand-
21 board spacers 54, shown in Figs. 6a-6e, have conical
22 tops 56 for location in the underside 32 of another
23 spacer 54 or in a corresponding recess (not shown)
24 in the underside of the stand-board 18. The stand-
25 board spacers 54 are reinforced for load bearing and
26 are larger in diameter than the spacers 14 used for
27 the base panels 12a-12c. The spacers 54 can be
28 similarly varied underneath the stand-board 18 to
29 provide a contoured surface on which the user stands
30 in order to closely replicate the situation found in
31 practise on actual putting greens. Rubber contact
32 pads 58 may be provided on the bottom of the stand-

1 board spacers 54, as shown in Figs. 6a-6c, although
2 a rubber O-ring contact 55, as shown in Figs. 6d and
3 6e, is preferred in order to increase the stability
4 of the stand-board 18.

5
6 In preferred embodiments, the stand-board 18 can
7 continue the angle of slope provided on the base
8 panels 12a-12c. Given that the width of the stand
9 board 18 is around half that of a base-panel 12a-
10 12c, the slope between two points on the stand-board
11 18 will be steeper than the slope between two points
12 of a base panel 12a-12c (spaced to the same height
13 as the stand-board 18) because the stand-board
14 spacers 54 are closer together than the base-panel
15 spacers 14. To allow for this, a pack of spacers 54
16 is provided with spacers of differing heights, for
17 example, 10mm, 15mm and 20mm. In this way, where a
18 slope on a base-panel 12a is provided by a
19 difference of a single spacer 14 for example, the
20 same angle of slope can be created on the stand-
21 board 18 by the use of a spacer 54 which is 10mm in
22 height.

23
24 Thus, the stand-board 18 is fully contourable and a
25 great variety of different slopes, degree of slopes
26 and direction of slope can be provided on the stand-
27 board 18. In particular, the stand-board can be set
28 to match the contours of the putting surface 24.
29 Thus in order to use the putting apparatus 10, the
30 user connects the base panel 12b to the base panels
31 12c and 12a via the castellations 20 to provide the
32 line of base panels 12a-12c. The putting surface 24

1 is rolled over the base panels 12a-12c and the rails
2 16 (shown in Figs. 11a & 11b) attached to the
3 putting surface 24. The stand-board 18 is then
4 positioned next to the base panels 12a-12c at any
5 point along their side, depending on the length of
6 shot the user wishes to play and practise.

7
8 The spacers 14 are arranged below the base panels
9 12a-12c in any combination in order to provide a
10 slope over which the user wishes to practise. For
11 example, a single spacer may be provided at each
12 point on the left-hand side of the base panels 12a-
13 12c and no spacers on the opposite right-hand side
14 of the base panels 12a-12c to provide a 'left
15 break'. Alternatively, a downhill putt may be
16 practised by providing four spacers 14 at the end
17 distant from the holes 22, and then reducing the
18 number of spacers 14 at each side by one and
19 finishing with no spacers at the end proximate to
20 the holes 22. It will be appreciated that there is
21 a great deal of variety in the choice of the spacers
22 used and some of these shots are shown in Fig. 9.

23
24 Thus the user can stand on the stand-board 18 and
25 practise putting golf balls along the putting
26 surface 24 supported by the base panels 12a-12c.
27 The number, position and orientation of the spacers
28 14 shape the stand-board 18 and base panels.
29 Thus embodiments of the present invention benefit
30 from being extremely adaptable at providing a large
31 variety of different types of shot which the user
32 may practise. Moreover, an important benefit of

1 certain embodiments of the present invention is that
2 a stand-board, such as the stand-board 18, can also
3 be shaped like the putting surface in order to
4 provide an authentic standing position for the user
5 whilst practising the shots. Thus certain
6 embodiments of the present invention provide for a
7 large number of different shapes for the stand-board
8 18 also.

9
10 An important aspect while playing golf is the
11 position of the users' feet and their stance whilst
12 taking a shot. For example, shots on a slope are
13 more difficult, not only due to judging the ball's
14 direction and speed over the slope, but also due to
15 the awkward stance the user has to adopt and the
16 distribution of his or her weight whilst playing the
17 shot. Thus, the ability to contour the stand-board
18 to provide curves of many varying types is an
19 important aspect of particularly preferred
20 embodiments of the present invention.

21
22 Moreover, certain embodiments of the present
23 invention also provide a stand-board that can be
24 moved to allow the user to practise different
25 lengths of shots and to allow left-handed golfers to
26 practise as well.

27
28 Certain embodiments of the invention benefit from
29 allowing the slope of a stance-board, such as the
30 stand-board 18, to be adjusted so that it is in the
31 same plane as the slope of a putting portion, such
32 as the putting surface 24.

1 During storage, the putting apparatus 10 can be
2 disassembled by disconnecting the castellations 20
3 between the base panels 12a-12c. The putting
4 surface 24 can be rolled up over a cardboard tube,
5 44 (shown only in Fig. 4) and the stand-board 18 can
6 be provided in recesses 46 on the under side 42
7 between the base panels 12a & 12b. The spacers 14
8 and rails 16 can be stored within the tube 44.
9 Thus, the putting apparatus 10 can be conveniently
10 stored.

11

12 The base panels 12a-12c can be made from a material
13 such as expanded polypropylene (EPP) and are stiff
14 enough to remain flat when raised uniformly off the
15 ground by the spacers 14 at various points, yet
16 flexible enough to create undulations when raised in
17 a non-uniform manner off the floor. Alternatively,
18 the panels 12a-12c and stand-board 18 may be made
19 from polystyrene or polyurethane foam.

20

21 The putting surface 24 is also be made from
22 polypropylene but is flexible enough to allow it to
23 be rolled up for storage. Alternatively Nylon™ or
24 any other suitable synthetic material may be used as
25 the putting surface.

26

27 The stand-board 18 is preferably manufactured by
28 aluminium extrusion although other methods such as
29 injecting moulding, reaction injection moulding,
30 rotational moulding, vacuum forming or aluminium
31 casting may be used. A further alternative is to
32 make the stand-board 18 from wood.

1 The spacers 14, 54 are polypropylene injection
2 mouldings to make them light in weight. The rails
3 16 are polypropylene extrusions.

4

5 The putting surface 24 is fully UV stabilised and
6 treated to protect against dust mites, bacteria,
7 mould, mildew, etc. The speed of greens is typically
8 measured as a "stimp" value and certain embodiments
9 of the present invention have a stimp value of
10 around 10. However brushing the putting surface can
11 slow down the movement of balls thereover - giving a
12 stimp value of about 8.

13

14 A further benefit of certain embodiments of the
15 present invention is that they are made from
16 relatively inexpensive material, and do not require
17 any tensioning or assembling means in order to
18 function.

19

20 Improvements and modifications may be made without
21 departing from the scope of invention.

22